

# **Exhibit C**

1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE DISTRICT OF ARIZONA

3  
4 IN RE BARD IVC FILTERS

CASE NO.

5 PRODUCTS LIABILITY LITIGATION

MD-15-02641-PHX-DGC

6 (PAGES 1-118)

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11 VIDEOTAPED DEPOSITION OF EXPERT WITNESS

12 ROBERT M. McMEEKING, PhD, NAE, FREng, FRSE, LFASME

13 WEDNESDAY, JANUARY 30, 2019, 10:02 A.M.

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24 OUR JOB NO: 3191492

25 REPORTED BY: GINA STACY KAREN, CSR 7927

1 Q What is your basis for believing that caval  
2 motion would enhance the effectiveness of a rounded cap?

3 A Well, caval motion would include the expansion  
4 and contraction of the vena cava width and that is what  
5 causes the arms to experience strain. And the rounded  
6 chamfers have the effect of helping to keep the level of  
7 strain down in the arms where they exit the cap.

8 And, therefore, that's my reason for saying  
9 that -- that caval motion, in the sense of expansion and  
10 contraction of the vena cava, would make the chamfer an  
11 effective feature of the design.

12 Q Would you agree that the position of a patient's  
13 inferior vena cava with respect to the spine could affect  
14 the effectiveness of caudal anchors?

15 A I'm not sure about that.

16 Q One way or the other?

17 A One way or the other.

18 Q Let's back up just a moment to what you just said  
19 about caval motion enhancing the effectiveness of a  
20 rounded cap. You have not conducted any testing to  
21 verify that opinion, have you?

22 A I have not be conducted any bench testing, no, or  
23 animal testing.

24 Q Have you conducting any other type of testing to  
25 verify that particular opinion?

1           A       Well, I've done calculations. But, no. I would  
2       define those as testing. But it's analysis of the  
3       strains which are present in the filter.

4           Q       Would you agree that the position of a patient's  
5       inferior vena cava with respect to the spine could impact  
6       the effectiveness of penetration limiters?

7           A       I'm not sure about that one way or the other.

8           Q       The same question with regard to a two-tiered  
9       design.

10          A       Again, I'm not sure about that one way or the  
11       other.

12          Q       Would you agree that the position of a patient's  
13       inferior vena cava with respect to the spine could impact  
14       the effectiveness of a rounded cap?

15          A       I'm not sure about that one way or the other.

16          Q       Now, this bullet point list that begins on page 1  
17       of your report -- what -- where did you obtain those  
18       facts, particular facts?

19          A       I am relying on Dr. Hurst's report and  
20       Dr. Muehrcke's report for this information. I also  
21       looked at some imaging. And what I saw in the imaging is  
22       consistent with what is reported by Dr. Hurst and  
23       Dr. Muehrcke.

24          Q       Do you recall which images you looked at?

25          A       No, I don't recall exactly which images.

1 Q Do you identify in your report the images that  
2 you looked at?

3 A No. No.

4 Q When did you look at those images?

5 A Um, I don't recall.

6 Q Did you look at them yourself, or with someone  
7 else?

8 A I believe I looked at them with Dr. Hurst by  
9 video conference.

10 I may be mistaken by that. Because I've looked  
11 at other images with him. So, I may be mistaken about  
12 whether it was Mrs. Tinlin's that I looked at.

13 Q Okay. If I understand what you just said, you  
14 recall having looked at some images regarding some  
15 patient with Dr. Hurst via video conference at some  
16 point, but you cannot recall specifically whether that  
17 was with regard to Mrs. Tinlin?

18 A That's correct.

19 Q Do you recall having a video conference -- when  
20 was the last time you had a video conference with  
21 Dr. Hurst?

22 A The one I recall was in September.

23 Q Of 2018?

24 A Of 2018, yeah.

25 Q How long did that video conference last?

1 A Oh, it was an hour or so. About an hour.

2 Q Was Ms. Tinlin the subject of that video  
3 conference?

4 A I don't recall.

5 Q Did someone else attend that video conference  
6 with you and Dr. Hurst?

7 A One of the attorneys.

8 Q Do you recall which attorney?

9 A No. I don't know.

10 Q Was it Mr. Stoller?

11 A Um, I don't think so, no.

12 Q Have you had any video conferences with  
13 Dr. Muehrcke?

14 A I don't recall. No. I don't think so. No.

15 Q Did you actually read any medical records  
16 yourself other than to possibly, as you indicated, look  
17 at images?

18 A Well, I looked through the medical records of  
19 Mrs. Tinlin.

20 Q But you are not a medical doctor; correct?

21 A That's correct.

22 Q Now, these bullet points reflect the medical  
23 issues specific to Ms. Tinlin that were important for  
24 your opinions in this case; correct?

25 A That's correct.

1 Q And you've already testified in three trials in  
2 the Bard IVC litigation?

3 A That's correct.

4 Q And you understand based on those trials that  
5 doctor -- Judge Campbell has a very strict rule that, if  
6 you do not disclose facts and opinions in your reports,  
7 you cannot testify about those things; correct?

8 A If you tell me that's the case, I would accept  
9 it, yes.

10 Q Well, you attempted to include all of the  
11 important things for the opinions about Mrs. Tinlin that  
12 you intend to explain to the jury in this report;  
13 correct?

14 A That's correct.

15 Q You told us you're not a medical doctor and you  
16 don't hold yourself out as an expert in interpreting  
17 medical records; right?

18 A That's correct.

19 Q And you're not an expert when it comes to reading  
20 imaging; correct?

21 A That's correct.

22 Q And you would defer in this case to all of the  
23 medical experts as far as those areas go?

24 A I would, yes.

25 Q Let's look at the first bullet point, which

1 those reports, you did a number of calculations; correct?

2 A That's correct.

3 Q But you have never done any calculations focused  
4 specifically on caudal anchors and what effect they would  
5 have in improving the performance of the filter; correct?

6 A That's correct.

7 Q And, likewise, you have never done any specific  
8 calculations regarding the effect that penetration  
9 limiters would have on the filter?

10 A That's correct.

11 Q And you have never done any specific calculations  
12 as to the effect that a two-tiered design would have on  
13 the filter?

14 A That's correct.

15 Q And you have never done any specific calculations  
16 as to the effect that the rounded chamfer would have on  
17 the filter; correct?

18 A No. I disagree with that.

19 Q Okay. Tell me the basis for that.

20 A Well, in the MDL report I present calculations  
21 for the effect of the rounded chamfer in regard to the  
22 levels of strain and stress which are associated with it  
23 in the adjacent strut.

24 Q Would you agree with me that in your view a  
25 filter that had the rounded chamfer, like you've



1 a filter; correct?

2 MR. STOLLER: Objection. Foundation.

3 THE WITNESS: I'm not sure if they thought she  
4 would have died. But I believe that they assessed that  
5 it would avoid problems that she might face in terms of  
6 her health.

7 BY MR. NORTH:

8 Q You have no reason to dispute whether or not  
9 Mrs. Tinlin's Recovery filter might have saved her life;  
10 correct?

11 A I have no reason to dispute that, no.

12 Q You did no additional testing for your report in  
13 this case; correct?

14 A That's correct.

15 Q And you did no additional calculations for your  
16 report in this case?

17 A That's correct.

18 Q None of the opinions you provide in this report  
19 regarding design alternatives have been published in any  
20 literature by you, have they?

21 A By me, no. Correct.

22 Q Are you aware of any literature regarding  
23 penetration limiters or caudal anchors and their efficacy  
24 on filters?

25 A Well, yes.

1 Q And what is that?

2 A There are papers that look at clinical experience  
3 with filters that have and do not have those features on  
4 them.

5 Q I'm talking about from an engineering standpoint.  
6 Are you aware of any publications that analyze from an  
7 engineering perspective how caudal anchors or penetration  
8 limiters perform?

9 A Not from an engineering assessment, no.

10 Q And you haven't published anything from an  
11 engineering perspective regarding penetration limiters,  
12 caudal anchors, two-tiered design, or a rounded chamfer;  
13 correct?

14 A That's correct.

15 Q And, therefore, your opinions regarding those  
16 design alternatives have not been peer reviewed, have  
17 they?

18 A Not directly, no.

19 Q You're not aware of any industry or government  
20 standards that would require any of the design  
21 alternatives that you've proposed; correct?

22 A Yes. I'm aware of some.

23 Q What would those be?

24 A In the sense that companies are expected to  
25 reduce all risks to the extent practicable.

1 Q I'm talking about these specific design  
2 attributes: Penetration limiters, caudal anchors,  
3 two-tiered design, rounded chamfer. You're not aware of  
4 any industry standards or governmental regulations that  
5 require those specific design features; correct?

6 A That's correct.

7 Q And you're not aware of any standards or  
8 regulations that recommend those specific design  
9 features?

10 A That's correct.

11 Q And you are aware, of course, that Bard has  
12 retained its own engineers in this case; correct?

13 A You mean as experts?

14 Q Yes.

15 A Yes. I am, yes.

16 Q And you know who Dr. Paul Bryant is; correct?

17 A That's correct.

18 Q Have you ever published anything about  
19 Dr. Bryant's opinions in this litigation?

20 A Published in a sense of in public literature?

21 Q Yes.

22 A No, I have not.

23 Q Did you bring any of your other past reports with  
24 you today?

25 A I brought the MDL report.

1 Q Do you have the March 3, 2017, MDL report?

2 A That's correct. Yes, I do.

3 Q Could we look at that a minute?

4 A Certainly.

5 MS. NORTH: Could we put an exhibit sticker on  
6 his report, and I'll just substitute one later.

7 THE WITNESS: Can I give you the one with black-  
8 and-white pictures for the exhibit?

9 MR. NORTH: Yeah. I couldn't care less.  
10 Perfect. I apologize. I thought I had that, and it's  
11 not here.

12 (Whereupon Defendants' Exhibit 2 was  
13 marked for identification by the court  
14 reporter and is attached hereto.)

15 MR. NORTH: I think I have a clip.

16 THE WITNESS: I'm going to look at the one with  
17 color pictures.

18 BY MR. NORTH:

19 Q That's fine.

20 But I want to look at a diagram on page 47. And  
21 there is a Table 1; correct?

22 A Yes, correct.

23 Q I'm sorry. Not diagram. A table.

24 Tell me what this table reflects.

25 A This table reflects calculations that I did for

1 this analysis that would be present in a vena cava with  
2 28 millimeters in diameter?

3 A That's correct.

4 Q You are aware that later generations of Bard  
5 filters, such as the Meridian and the Denali came  
6 equipped caudal anchors and penetration limiters;  
7 correct?

8 A I'm aware that Meridian has caudal anchors. The  
9 Denali has penetration limiters. And I believe the  
10 Denali has caudal anchors as well, but I don't recall  
11 exactly whether that's the case.

12 Q Are you aware of any single IVC manufacturer who  
13 incorporated caudal anchors or penetration limiters in a  
14 retrievable filter prior to the time that Bard did?

15 A Yes.

16 Q Who is that?

17 A The Tulip. The Gunther Tulip. The Gunther  
18 Tulip.

19 Q And when did they do that?

20 A The -- it came out in the United States in about  
21 2002, 2003. But it had been available in Europe about  
22 ten years prior to that.

23 Q When you say in -- available in Europe, you mean  
24 in the Cook filter?

25 A Yes. The Cook Gunther Tulip filter was available

1 minimize caudal migration."

2 Is that correct?

3 A That's correct.

4 Q A choice is a decision. Would you agree with  
5 that?

6 A Yes, I agree.

7 Q And to know if a choice was actually made, you  
8 have to know what somebody's motivation was; correct?

9 MR. STOLLER: Object to form.

10 THE WITNESS: I'm not -- could you repeat the  
11 question. I'm not sure if I understand it.

12 BY MR. NORTH:

13 Q Well, to know if a choice was consciously made,  
14 you have to know a person's state of mind; correct?

15 A I don't think so.

16 MR. STOLLER: Form.

17 BY MR. NORTH:

18 Q Why is that?

19 A Because the fact is that the filter was produced  
20 without a caudal anchor. And, so, therefore, that --  
21 that decision was made to produce it that way. That's  
22 the meaning I'm trying to convey in that sentence.

23 Q Well, you have no evidence one way or the other  
24 that Bard actually considered but then rejected caudal  
25 anchors as a design feature for the Recovery filter;

1 THE WITNESS: Well, the meaning of my testimony  
2 was that, when the IVC is large, there is less tendency  
3 for perforation to take place and therefore less need of  
4 a perforation limiter, and therefore the perforation  
5 limiter would not be effective in the sense that it's  
6 guarding against something that may not be such a big  
7 threat -- a big risk.

8 BY MR. STOLLER:

9 Q Mr. North asked you about that same series of  
10 questions with respect to whether things such as an  
11 overly large IVC or caval motion could affect -- or  
12 impact the effectiveness of some of the design features  
13 that you've advocated for with respect to the Recovery  
14 filter and asked you as to those, where you indicated  
15 that you thought those might, whether you had done any  
16 testing to support those -- those answers.

17 Do you recall that?

18 A I do, yes.

19 Q And I think you indicated that you've not done  
20 any testing; is that correct?

21 A That's correct.

22 Q Have you applied the principles you use in your  
23 capacity as a mechanical engineer in coming to those  
24 conclusions?

25 A Yes.

1 Q And can you give a general explanation of what  
2 your -- how you arrived at the conclusion that those  
3 designs could or would alleviate some of those issues.

4 A Well, in -- in any given circumstances where the  
5 filter is likely to -- to, for example, tilt, then having  
6 features that would inhibit that tilt is going to be  
7 beneficial in the sense that it would reduce the degree  
8 of tilt.

9 Similarly, with perforation, if there are  
10 features that help to reduce the degree of perforation,  
11 then they will reduce the extent to which perforation  
12 will take place.

13 And similarly if there are features that help to  
14 reduce the risk that the filter faces in terms of the  
15 possibility of fatigue fracture, then features that  
16 address that will help to reduce that risk.

17 Q Let me ask a specific question on this point,  
18 which is that, I believe Mr. North asked you whether an  
19 overly large IVC or IVC greater than the size indicated  
20 in the IFU could affect the effectiveness of the chamfer  
21 that you produced here. And I believe your testimony was  
22 that you did not think it would.

23 Is that correct?

24 MR. NORTH: Objection. Leading.

25 THE WITNESS: That's correct.



1 BY MR. STOLLER:

2 Q And in arriving at that conclusion, you didn't  
3 perform any tests; correct?

4 A That's correct.

5 Q It's not something that's in any of the reports  
6 that you've provided in this litigation. Is that true?

7 A That's true. Yes.

8 Q You were responding to a question by Mr. North in  
9 this deposition; correct?

10 A Correct.

11 Q But in arriving at that conclusion, did you apply  
12 the principles of mechanical engineering that you use in  
13 coming to your other opinions in this case?

14 A Yes, I did. Yes.

15 Q So, could you explain that application as to that  
16 example.

17 A Well, the chamfer on the mouth of the cap becomes  
18 significant when the struts interfere with the cap. So,  
19 that, if they are riding against the cap, then the  
20 strains can be elevated, and the presence of the -- of  
21 the chamfer will help to control that effect.

22 And, therefore, the chamfer can be beneficial in  
23 circumstances where the strut is interacting with the cap  
24 and can help to reduce the danger of fatigue fracture  
25 taking place. And that circumstance becomes significant

1 when the struts are touching the mouth of the cap.

2 If the struts are not touching the mouth of the  
3 cap, then it's not so relevant. And, therefore, it  
4 depends on specific circumstances that arise in specific  
5 cases. And that would depend on many things, including  
6 the size of the IVC.

7 Q Is it fair to say that, in arriving at your  
8 conclusions here today in response to Mr. North's  
9 questions as to whether the particular design features  
10 you identified would be affected by an overly large IVC,  
11 you applied the same principles that you did in  
12 concluding that those were necessary design features?

13 A That's correct.

14 MR. NORTH: Objection. Leading.

15 THE WITNESS: That's correct.

16 BY MR. STOLLER:

17 Q Let me ask you some questions quickly about your  
18 report, which has been marked as Exhibit 1 to your  
19 deposition. And, specifically, I'd like to focus first  
20 on the facts which are outlined on page 1, 2 in the  
21 bullets points of your report.

22 What is the source for the information that's in  
23 those bullet points?

24 MR. NORTH: Objection. Asked and answered.

25 THE WITNESS: The source is Dr. Hurst's report,

1 Dr. Muehrcke's report, and my review of the medical  
2 records in Mrs. Tinlin's case.

3 BY MR. STOLLER:

4 Q And I would like you to pull what has been marked  
5 as Exhibit 4 to your deposition, which is Mr. Hurst's  
6 report. Real quickly. And if you wouldn't mind skimming  
7 what is on his report from pages 2 through 10 under  
8 imaging reviewed.

9 A Yes.

10 Q In those, what I just had you look through, are  
11 Dr. Hurst' review of the imaging that he did for  
12 Mrs. Tinlin; correct?

13 A Correct.

14 MR. NORTH: Objection. Leading.

15 BY MR. STOLLER:

16 Q Did you review that -- those portions of  
17 Dr. Hurst's report for purposes of preparing your report?

18 A That's correct.

19 Q And did you rely on Dr. Hurst's analysis as to  
20 what those imaging studies showed with respect to  
21 Mrs. Tinlin's filter?

22 A That's correct.

23 Q For purposes of your report, did you assume those  
24 facts to be true?

25 A Yes, I did. Yes.

1 Q And you're not providing any independent  
2 testimony as to the truth of those facts or whether or  
3 not Dr. Hurst's analysis of them is correct; is that  
4 true?

5 A That's correct.

6 Q And is it reasonable for you in your capacity as  
7 an expert on issues of mechanical engineering to rely on  
8 Dr. Hurst's analysis of the facts to form the basis of  
9 your opinions?

10 A Yes, it is reasonable.

11 Q Earlier Mr. North asked you some questions about  
12 whether, if Mrs. Tinlin's IVC was larger than indicated  
13 in the IFU, it could affect the failure mode she  
14 experienced in this case.

15 Do you recall that testimony?

16 A I do.

17 Q And I believe you indicated that whether her IVC  
18 was larger than indicated in the IFU could affect the  
19 failure mode; is that correct?

20 MR. NORTH: Objection. Leading.

21 THE WITNESS: That's correct.

22 BY MR. STOLLER:

23 Q Let me ask this question. Your understanding --  
24 is it correct that your understanding is that the IFU  
25 indicates for use in IVCs up to 28 millimeters?

1 A That's correct.

2 Q And do you have an understanding, based on your  
3 review of Bard's records to which you had access or were  
4 provided to you in this litigation, with respect to  
5 Bard's understanding of the size of an IVC and why that  
6 number at 28 was included the IFU?

7 THE REPORTER: Was?

8 MR. STOLLER: Included in the IFU.

9 MR. NORTH: Objection to the form.

10 THE WITNESS: Well, it's my understanding that  
11 they understood that the size of the vena cava is  
12 variable due to many circumstances, such as breathing,  
13 motion, Valsalva, and so on, and that -- that there  
14 was -- there were also aspects of the behavior of the  
15 filter that might be compromised by a large vena cava,  
16 such as migration. And so they put a limit on how big  
17 the vena cava should be in terms of the instructions for  
18 use in terms of allowing it to be implanted.

19 BY MR. STOLLER:

20 Q And do you have an understanding, based on your  
21 review of the medical literature, of the type or amount  
22 of variation that might happen in an IVC?

23 A I do.

24 Q And what is that?

25 A Well, my understanding is that the variation can

1 be very significant, such as perhaps as large as  
2 43 percent during breathing. In other words, the width  
3 of the IVC can change by as much as 43 percent during  
4 breathing. And during Valsalva it can change by amounts  
5 that are as high as 90 percent in terms of the change of  
6 width of the IVC.

7 Q And do you have expertise in terms of identifying  
8 what the size -- I use the term size loosely -- of an IVC  
9 is in its normal state versus in its expanded or  
10 contracted state?

11 A I'm not sure I understand the question. Can you  
12 repeat the question, please.

13 Q Sure.

14 I think I understood you to say that the IVC can  
15 vary in size and normal breathing by as much as  
16 43 percent?

17 A Correct.

18 Q I'm going to use 50 percent for ease of math.  
19 So, if somebody's normal-state IVC is 20 millimeters, it  
20 could in normal state expand and contract to as much as  
21 30 millimeters.

22 Am I understanding that correctly?

23 A That's correct.

24 Q So, do you have an understanding of how to  
25 determine, when you're looking at an IVC, whether it is

1 in a normal state, which is 20 millimeter IVC which is  
2 expanded to 30, or if it is a 30 millimeter IVC that  
3 could expand or contract from there?

4 MR. NORTH: Objection to the form.

5 THE WITNESS: Well, with a snapshot measurement,  
6 you wouldn't know whether that is as big as it's going to  
7 be or as small as it's going to be or how much the change  
8 of width might be that the patient would experience.

9 BY MR. STOLLER:

10 Q And is it -- based on your understanding of the  
11 function of the IVC, can a 28 millimeter IVC in its  
12 normal state ever be larger than 28 millimeters?

13 MR. NORTH: Object to the form. Leading.

14 THE WITNESS: Yes.

15 BY MR. STOLLER:

16 Q And by how much and how big can it get?

17 A Well, if we use the 50 percent figure that  
18 represents breathing, it could be as large as  
19 43 millimeters in width as a consequence of that kind of  
20 increase in diameter.

21 Q Now, based on your review of the internal Bard  
22 documents, were they -- did they take that into account  
23 in 2004 and 2005 in designing the -- I should take that  
24 back -- in 2003 and 2002 in designing their Recovery  
25 filter?

1 MR. NORTH: Objection. No foundation.

2 THE WITNESS: No. They did not.

3 BY MR. STOLLER:

4 Q Were they aware of the fact that the IVC could  
5 expand by that much at that point in time?

6 MR. NORTH: Objection. No foundation.

7 THE WITNESS: They were not.

8 BY MR. STOLLER:

9 Q And, so, is there any indication in the IFU that  
10 warns treating doctors that the filters shouldn't be  
11 implanted in an IVC that is 28 millimeters because it  
12 might expand to a greater size?

13 MR. NORTH: Objection to the form.

14 THE WITNESS: Not to my knowledge.

15 BY MR. STOLLER:

16 Q Are there design aspects of the filter that  
17 should have taken those issues into account?

18 A Yes.

19 Q And what are they?

20 A The design aspects, such as making sure that the  
21 anchoring of the filter to the wall would be effective  
22 even as the vena cava became very large so that it would  
23 not be prone to tilting and migration when the vena cava  
24 becomes very large, and the features that might limit  
25 perforation if the vena cava becomes very small, which



1 will tend to make perforation more likely.

2 And since both tilt and perforation contribute to  
3 the likelihood of fracture, they would affect the  
4 likelihood of fracture by fatigue, and therefore the  
5 design should have taken that into consideration in  
6 regard to its resistance to fatigue fracture.

7 Q And if a filter is indicated for use in an IVC up  
8 to 28 millimeters, should it be also -- in light of the  
9 fact that IVC can expand fairly significantly, should it  
10 be designed to be safe and effective for use in IVCs  
11 greater than 28 millimeters?

12 MR. NORTH: Objection to the form. No  
13 foundation. And leading.

14 THE WITNESS: Yes.

15 BY MR. STOLLER:

16 Q Mr. North asked you some questions about your  
17 analysis of other filters in the overall IVC filter  
18 litigation against Bard and specifically as to FEA  
19 analysis you had conducted as to the various filters.  
20 And I believe you testified that you had not conducted  
21 FEA specific to the Meridian and Denali.

22 Was that your testimony?

23 A That's correct.

24 Q Is that accurate?

25 A No. I realized that I misspoke when I said that

1 the calculations are not relevant to the Meridian because  
2 the Meridian in its overall shape is identical to the G2,  
3 which I did do calculations for, both finite element  
4 calculations and --

5 THE REPORTER: Both?

6 THE WITNESS: -- finite element calculations and  
7 other calculations by algebra and calculus, and so on.

8 So, those calculations all apply to the Meridian.  
9 They also apply in -- approximately, but fairly  
10 accurately, render the approximation to the Denali.  
11 Because the shape of the Denali is very similar -- is  
12 quite similar to the shapes of the Meridian, the Eclipse,  
13 and the G2.

14 BY MR. STOLLER:

15 Q Dr. McMeeking, with respect to the report that is  
16 Exhibit 1 here today and the other reports that you've  
17 provided in the Bard IVC filter litigation, do those  
18 reports accurately set forth your opinion and the basis  
19 for opinions that you've arrived at to a reasonable  
20 degree of engineering probability?

21 A Yes, they do.

22 Q And in coming to those conclusions and opinions,  
23 did you follow a methodology that is utilized by  
24 reasonable engineers in your field to resolve these  
25 issues?

1 A I did, yes.

2 Q And did you apply the same methods and processes  
3 that are used by mechanical engineers in arriving at  
4 those opinions?

5 A Yes, I did.

6 Q In order to come to your opinions as to the  
7 design and testing of the Bard IVC filters, was it  
8 necessary for you to carry out bench testing or animal  
9 testing?

10 A No. It was not.

11 Q And do mechanical engineers in your role  
12 typically carry out bench testing or animal testing?

13 A Well, many of them carry out bench testing. But  
14 animal testing would be an unusual pursuit for a  
15 mechanical engineer of my background and professional  
16 activities.

17 Q The purpose of the bench -- what's the purpose of  
18 bench testing?

19 A The purpose of the bench testing is to simulate  
20 the environment that the filter will experience as  
21 closely as possible and to investigate whether it will  
22 suffer failure modes that need to be avoided once it's  
23 implanted in a patient, and also to see whether it -- the  
24 filter will be -- is likely to be effective in terms of  
25 counting out its function.

1 Q And you've reviewed much of the bench testing  
2 that Bard conducted with respect to the IVC filters in  
3 this litigation; correct?

4 A That's correct.

5 Q And specifically you've done that as to the  
6 Recovery; correct?

7 A That's correct.

8 Q And do those bench -- does that bench testing  
9 conform with the standard you just articulated?

10 A No. They do not.

11 Q Did you follow the methodology that engineers use  
12 and should follow when doing the analysis that you've  
13 done in this case?

14 A Yes, I did.

15 Q And you were asked questions about whether you  
16 had inspected Mrs. Tinlin's filter or filter fragments  
17 that are still in her body.

18 Do you recall that?

19 A I do.

20 Q Do you need to inspect those in order to arrive  
21 at the conclusions you have in this case?

22 A No, I do not.

23 MR. STOLLER: I don't have any further questions.

24 MR. NORTH: Just a few more, Dr. McMeeking.

25